

GE Healthcare

# Vivid E9

4D Cardiovascular ultrasound system



Capture the entire heart in a single beat.  
Not just a valve, but the entire ventricle.  
And break down the barriers to routine,  
day-to-day 4D imaging from acquisition  
to archiving.

# In a heartbeat, everything changes.

Meet the Vivid™ E9, GE Healthcare's first cardiovascular ultrasound system built specifically for 4D imaging – from ergonomics to image acquisition to data management.

Featuring our Accelerated Volume Architecture 4D platform for 8X the processing power. Advanced quantification tools help streamline workflow for higher productivity. These tools include 4D Stress and advanced ergonomics. One-touch ease of use puts 4D effortlessly at your fingertips.

As 4D becomes routine in your clinical practice, you still need excellent 2D image quality. Vivid E9 handles 2D imaging with equal power, precision and agility, made possible with our 4V-D transducer, the second generation 4D probe and the M5S probe's single-crystal matrix array.

The door to 4D and its many new possibilities hasn't merely been opened.  
It's been completely removed.



## Accelerated Volume Architecture

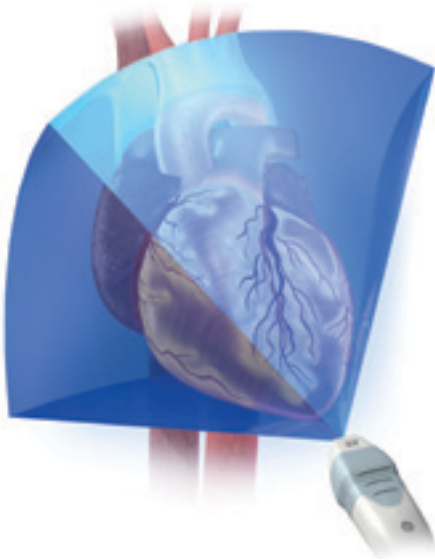
The Vivid E9 features an Accelerated Volume Architecture (AVA) platform with 8X the processing power of conventional processing. A field of view large enough to capture the entire heart with high frame rates. New D-series transducers can enhance 2D, 4D and shared service imaging across your entire patient population.

The result: Exceptional image quality and comprehensive diagnostic information. Ungated. Unspliced. Unbelievable.

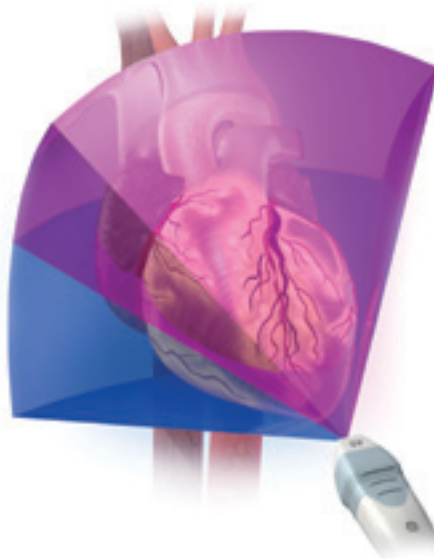


## Flexi-Volume 4D Acquisition

Single beat



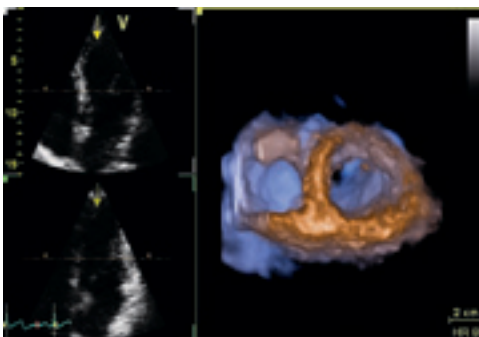
Dual beat



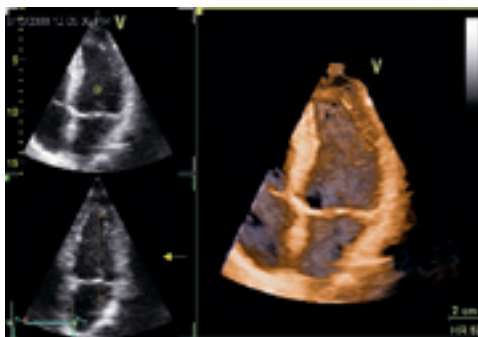
Multi beat



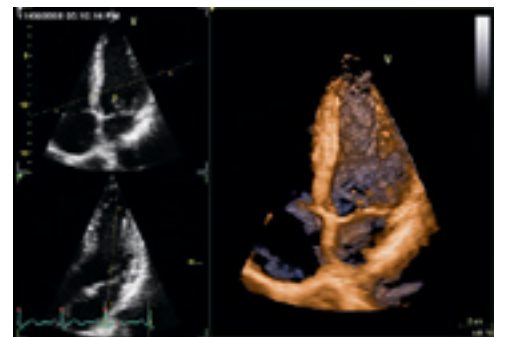
Thanks to the power of the Accelerated Volume Architecture, Vivid E9's Flexi-Volume captures a full volume of data in your choice of one, two or multiple heart cycles to fit your patient. Eight times the processing power delivers twice the volume size with fewer artifacts, giving you the ability to deliver increased volume size, resolution and volume rate, with the quantification you expect from GE. You can see the entire ventricle, not just a valve—with no gating, splicing or ECG needed for single-cycle acquisitions.



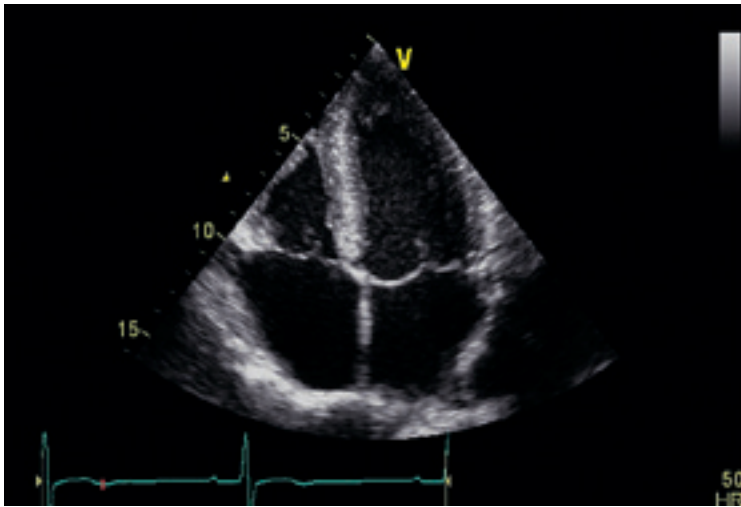
4D single-beat short-axis



4D dual-beat 4-chamber

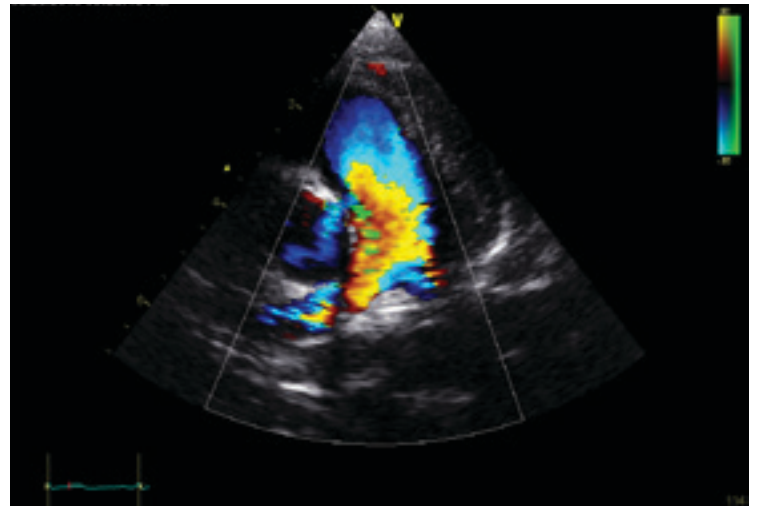


Multi-beat (3) 4-chamber

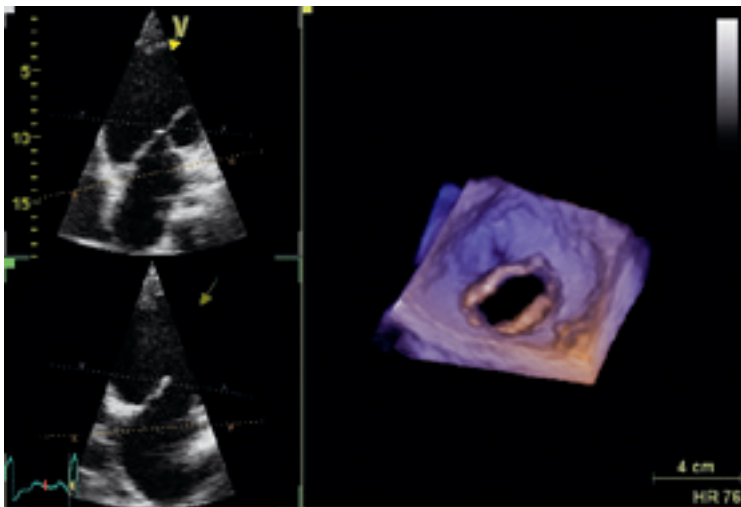


4-chamber 2D using the M5S transducer

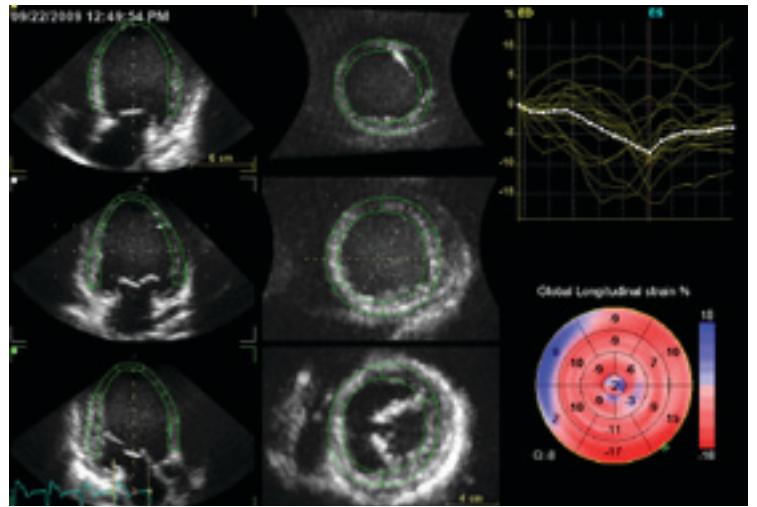
The M5S transducer marries matrix-array and single-crystal technologies for excellent endocardial definition and texture, and crisper valves across a wider range of frequencies than traditional transducers.



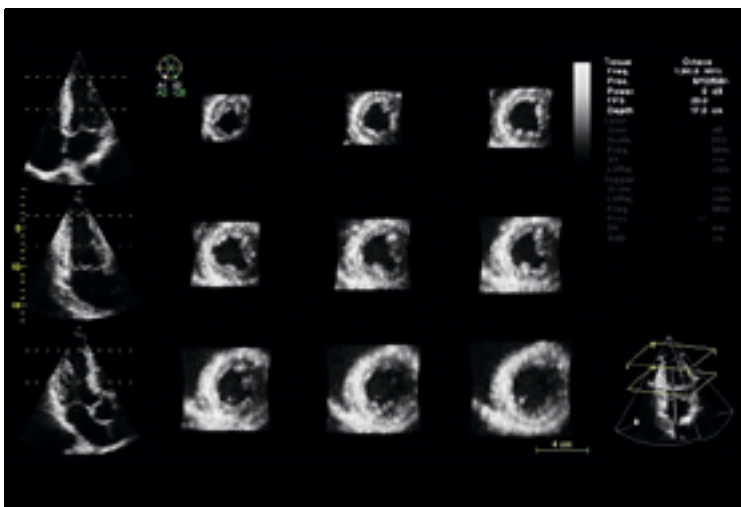
Pulmonary artery color flow using the 12S transducer



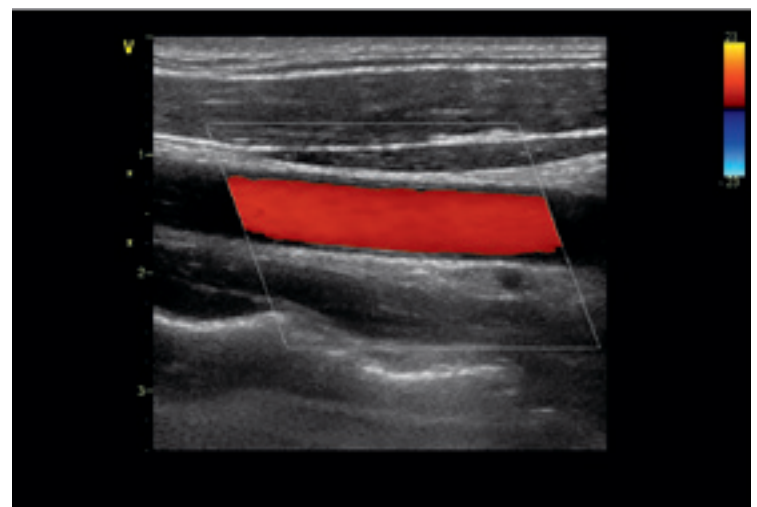
4-chamber mitral stenosis



Dilated heart shown with 4D Strain



12 slice



Carotid with color flow

# Built for the Easy 4D exam. From acquisition to answers.

The Vivid E9 helps make 4D imaging every bit as easy and effortless as 2D imaging. It can bring remarkable improvements to your entire 4D workflow process, thanks to fast, consistent reproducibility.

## Advanced 4D Quantification

**4D Auto LVQ:** A mesh-based surface-tracking model, the 4D Auto LVQ quantification tool provides you with a graphical output of pure 4D volume data. Utilizing temporal data, it delivers more reproducible results that are less prone to artifacts and variable heart rhythms for automatic volume and ejection fractions.

**4D LV Mass:** Using the above mentioned mesh-based surface tracking model, by adding the epicardial border, an LV Mass and an LV Mass Index is derived from the same data set.

**4D Strain:** As an extension to the 4D LV Mass tool, both global and regional strain values are calculated based upon a spatial speckle tracking algorithm. The end result is presented in a Strain Bull's Eye plot accompanied by Time-Strain curves and Cut Planes for enhanced visual tracking assessment.

## 4D Views

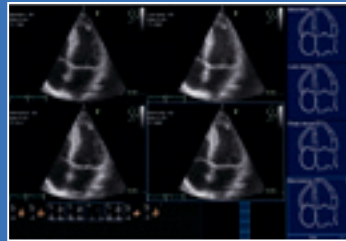
4D Views provides you with “one-touch” options to view images such as 4-chamber, 2-chamber, APLAX, mitral valve, septum and aortic valve.

After an automatic alignment, it takes the full volume acquisition data set and, with the touch of a button, automatically crops away the volume to instantly deliver the view you want. 4D Views helps eliminate the manual cropping and cutting of conventional 3D workflow—a time-consuming process that's difficult to teach and learn.

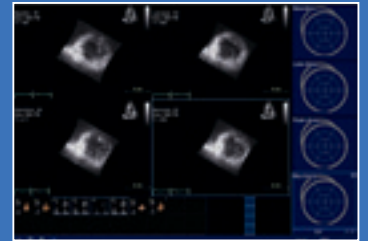
## 4D Virtual Store

This innovative feature helps reduce the size of patient studies by using image pointers to refer back to the original full-volume data set, rather than saving multiple large data sets for every new crop view or measurement.





4-chamber 4D stress views



Short-axis 4D stress views

### 4D Stress

Helping improve workflow for stress echo procedures, 4D Stress is an innovative first step in helping you integrate 4D into the routine of your day-to-day clinical practice.

Acquire full volume. Using 4D Stress, the Vivid E9 then cuts that volumetric view into three planes for short-axis analysis and three planes for long-axis analysis, so you can view images more easily.

With the Vivid E9, you can now visualize short-axis slices of the entire ventricle under stress. See views you've never seen before with conventional stress echo, which only shows you one slice in the short-axis view.

### Advanced 4D User Tool Box

For 4D Auto LVQ and 4D Views, an automated tool, Auto Align, helps simplify and speed up the process of aligning the left ventricle. Multi-Slice Imaging provides you with a live imaging mode where you can choose between viewing 5, 7, 9 or 12 slices, for simultaneous acquisition and assessment. Dynamic Multi-Slice and Dynamic Crop enables continuous display of the same structures throughout the cardiac cycle, compensating for out-of-plane motion in short axis views, potentially improving accuracy of wall motion scoring.

### Scan Assist

With Scan Assist, you can quickly customize the system for your departmental protocols for CRT optimization, and let the system guide you to the next view, mode and measurement.

Using new Scan Assist technology, you can acquire single-cycle or multi-cycle full volumes in any variation of traditional, multi-dimensional or full-volume views. There are also templates for both exercise and pharmacologic stress, all customizable using Scan Assist.

### Scan Assist Pro

With Scan Assist Pro you can customize the system for your standard echo, vascular and abdominal exams. The protocols assist you throughout each step of an exam, by automatically setting up modes and measurements, as well as annotations, helping enhance image acquisition consistency and reduce number of keystrokes.

From its slim, lightweight, maneuverable design, to its adjustable electronic keyboard, the Vivid E9 system is ergonomically designed to be easier to handle and operate.

# Ergonomically easy.

## Highly mobile

40% smaller and 30% lighter than console-based ultrasound systems, the highly mobile Vivid E9 is ready to roll right to the bedside.

## User adaptable

Using one-touch ergonomics, the Vivid E9's keyboard position, LCD display angle and touch panel interface can be easily configured to your preferences.



## Adjustable LCD display

The 17-inch all-digital high-definition LCD display tilts and swivels to a comfortable viewing angle.

## Accessible touch panel controls

The Vivid E9's touch panel uses fewer hard keys, making the keyboard smaller and the keys larger for easier access. Expanded 4D imaging controls are organized for an easy 4D workflow, with flexibility for future expansion for additional 4D features.

## Adjustable floating keyboard

With one touch, you can easily adjust the height and position of the Vivid E9 keyboard. Once comfortably positioned, just lock it in place to help prevent accidental shifting.

## Easy keyboard storage

The keyboard stores conveniently out of the way in a drawer when not in use.

## Convenient data management

Data management options are conveniently located, with multiple USB ports and a DVR recorder.





**Front and rear handles**

Handles on both the front and rear of the Vivid E9 make it easy to transport the system.

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## About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services helps our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access, and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at [www.gehealthcare.com](http://www.gehealthcare.com)

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imagination at work

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